

REMARKS

Claims 1, 3-10, and 12-18 are currently pending in this application. Claims 2 and 11 have been cancelled, without prejudice. The subject matter of cancelled claim 2 has been incorporated into claim 1. No new matter has been added to the application by the foregoing amendments.

Applicants specifically elected examination of claims 1-9 *with traverse* and request rejoiner of claims 10 and 12-18 upon allowance of claims 1 and 3-9. Rejoiner is proper because claims 10 and 12-18 depend from claims 1 and 3-9, respectively, and are directed to process for producing products from the compositions of claims 1 and 3-9.

Claims 1-9 have been rejected under 35 U.S.C. §102(b) as being anticipated by EP 0200906 (Piesch et al.). The Office Action contends that Piesch et al. discloses a modified melamine resin allegedly comprising the claimed composition (see column 2, lines 12-41; column 14, line 21 to column 18, line 4; Abstract).

Applicants respectfully traverse the §102(b) rejection and request that the rejection be reconsidered and withdrawn.

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987).

Independent claim 1 is directed to a composition for producing amino resin products comprising, *inter alia*, fully etherified polytriazine ethers comprising 4- to 1000 nuclei and a weak acid as a thermoinducible curing agent.

Piesch et al. relates to a modified melamine resin comprising a practically non-etherified melamine-formaldehyde precondensate, water and optionally a water-miscible lower alcohol and further modifiers (column 4, lines 45-55). Thus, the precondensate is characterized by free hydroxyl groups in the form of methylol groups obtained by the condensation of the amino groups of the melamine with formaldehyde. The melamine resins are used for the production of moulding compounds by adding suitable hardeners as melamine salts of organic acids, phthalic acid anhydride or maleinic acid anhydride (column 16, lines 32-42).

However, Piesch et al. does not disclose the use of completely etherified polytriazine ethers according to claim 1.

Also, Piesch et al. does not disclose the use of etherified polytriazine ethers. The modified melamine resins of Piesch et al. are used as impregnating resins for coating or impregnating paper or fabrics (column 7, lines 1-11). This requires that the applied resin is water soluble. The resins are available in liquid form using water as solvent or a water-miscible solvent. Water solubility of the modified resins can only be established by using a practically non-etherified melamine-formaldehyde precondensate.

It is known to a person skilled in the art that the solubility of organic compounds strongly depends on the number of free hydroxyl groups in a compound. The etherification of hydroxyl groups reduces the number of free hydroxyl groups. Thus, depending on the type of the etherifying agent, the water solubility of the compound is reduced.

Since the application of the resins according to Piesch et al. as impregnating resins requires its water solubility, an etherification of the melamine-formaldehyde resin is not desirable.

The completely etherified polytriazine ethers according to claim 1, on the other hand, are characterized by high viscosity and therefore are useful for melting processes.

For at least the reasons discussed above, the disclosure of Piesch et al. does not anticipate a composition according to claim 1. Claims 3-9 depend from claim 1, and are distinguishable from the disclosure of Piesch et al. for at least the same reasons as those discussed above for claim 1. Accordingly, Applicants respectfully request reconsideration and withdrawal of the §102(b) rejection of claims 1-9 over Piesch et al.

Claims 1-9 have been rejected under 35 U.S.C. §102(e) as being anticipated by EP 1 247 837 (Rätzsch et al.) or EP 1 297 686 (Rätzsch et al.). The Office Action contends that EP 1 247 837 discloses a modified, molded aminoplastic resin allegedly having the claimed composition (see Abstract; column 9, [0042] to column 11, [0045]; column 20, Example 8). The Office Action contends that EP 1 279 686 (U.S. 2003/0045667 equivalent) discloses polymers made from triazine derivatives for intermediates and molded materials allegedly comprising the claimed composition (see Abstract; [0026-0053], [0071], and formed in a melt process.

Applicants respectfully traverse the §102(e) rejections and request that the rejections be reconsidered and withdrawn.

EP 1 247 837 discloses modified aminoplasts comprising aminoplast precondensates, e.g., melamine precondensates and thermoplastic polymers. As melamine precondensates, partially etherified melamine-aldehyde-condensates can be used ([0008]). Examples of partially etherified melamine-aldehyde-products are methylated or butylated melamine resins ([0010]). During the synthesis of the aminoplasts, suitable hardeners such as ammonium phosphate can be added ([0045]).

However, EP 1 247 837 does not disclose the use of completely etherified polytriazine ethers as set forth in present claim 1.

One skilled in the art would understand that partially etherified amino resins differ in their reaction behavior from fully etherified amino resins.

The hardening process and thus the crosslinking process are due to the formation of water and methylene- and methylether-bridges. In the case of partially etherified amino resins, this crosslinking can be easily achieved by adding a weak acid due to its high number of free hydroxygroups.

It is further known to a person skilled in the art that the pK of an OH-group is lower than that of an etherified group. Thus, in the case of a free OH group it is sufficient to add a weak acid as hardener in order to promote the crosslinking and hardening process.

However, a person skilled in the art would be surprised that a weak acid can promote the hardening process of fully etherified amino resins due to the different reactivity of etherified hydroxyl groups compared to free OH-groups.

Therefore, a person skilled in the art would have not expected that weak acids which are applied as hardeners in the case of partially etherified amino resins also would be able to catalyze the hardening process of fully etherified amino resins.

Furthermore, the presently claimed compositions comprising fully etherified amino resins differ from the partially etherified amino resins in their physical properties, such as viscosity and melting behavior. This is shown from the fact that different temperature profiles are applied in the extruding process. The partially etherified amino resins of EP 1 247 837 are extruded with a lower temperature profile (see Examples 6 and 7) than the present fully etherified amino resins (see Example 10, page 23 of the present application).

The lower temperature profile of EP 1 247 837 suggests a different melting behavior than for the present amino resins.

For at least the reasons discussed above, the disclosure of EP 1 247 837 does not anticipate a composition according to claim 1. Claims 3-9 depend from claim 1, and are distinguishable from the disclosure of EP 1 247 837 for at least the same reasons as those discussed above for claim 1. Accordingly, Applicants respectfully request reconsideration and withdrawal of the §102(e) rejection of claims 1-9 over EP 1 247 837.

EP 1 279 686 disclose polymers based on triazine derivatives which are obtained from mixtures of:

- A) triazine derivatives;
- B) multifunctional compounds e.g., isocyanates, carbonic acids or glycidyl compounds; and
- C) further functional compounds e.g., dihydroxy compounds.

The polymers can be used to produce profiles or mouldings by adding a hardener such as ammonium phosphate.

Polymers obtained from the above mixtures comprise polyurethanes, polyesters or polyhydroxyethers and triazine structures. In contrast, the present compositions comprise fully etherified polytriazine ethers as set forth in claim 1.

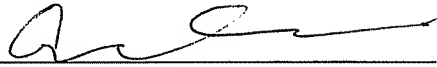
Thus, the polymers according to EP 1 279 686 belong to a completely different class of polymers compared to the present compositions. A simple transfer of reaction conditions from one class to the other is therefore not possible.

For at least the reasons discussed above, the disclosure of EP 1 279 686 does not anticipate a composition according to claim 1. Claims 3-9 depend from claim 1, and are distinguishable from the disclosure of EP 1 279 686 for at least the same reasons as those discussed above for claim 1. Accordingly, Applicants respectfully request reconsideration and withdrawal of the §102(e) rejection of claims 1-9 over EP 1 279 686.

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Accordingly, reconsideration of the rejections and allowance of claims 1, 3-10, and 12-18 is requested.

Respectfully submitted,
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